



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,824	02/27/2004	Iraj Saniee	9-7	6962
22046 7590 05/12/2009 Docket Administrator - Room 2F-192 Alcatel-Lucent USA Inc. 600-700 Mountain Avenue Murray Hill, NJ 07974				
EXAMINER				
WEIDNER, TIMOTHY J				
ART UNIT		PAPER NUMBER		
2419				
MAIL DATE		DELIVERY MODE		
05/12/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/788,824

Applicant(s)

SANIEE ET AL.

Examiner

Timothy J. Weidner

Art Unit

2419

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-10 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 11, 12, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Claims 6, 10, and 12 are currently amended.

Claims 13-18 are new.

Claims 1-18 are pending.

Response to Arguments

Arguments/amendments regarding claim 1 have been considered, but they are not persuasive, with the arguments also applicable for claims 7 and 13, and the claims which depend therefrom.

Arguments, pages 8-9, discusses TWIN (Time-Domain Wavelength Interleaved Network) where "each node is assigned a unique wavelength channel" and states this is different than the combination of Scholefield and Garcia. However, TWIN is not claimed. Instead "a communication network" is claimed, which reasonably includes wireless networks as described in Applicant's specification (page 10, lines 15-20). Therefore, the environments of Scholefield and Garcia are reasonable in this context.

Further, arguments, page 9, state "Scholefield cannot possibly ... consider other receiving nodes because there is only one base station in Scholefield." However, the base station of Scholefield can be reasonably combined with the multiple base stations of Garcia (figure 1, items 110, 130, 140, and 160), and with the multiple networks of Garcia (figure 1, items 20, 30, 40, 50, and 900). Therefore, the combination of Scholefield and Garcia appears reasonable in this context.

Lastly, arguments, pages 10-11, state "Garcia fails to teach ... selecting in a manner which is independent of timeslot selections to be made by other existing receiving nodes of the network." Examiner respectfully disagrees. Garcia clearly teaches "nodes admit new nodes for quasi-static scheduling independently of one another" (paragraph 30), and further, "the time slots of the quasi-static schedule are assigned to IRs known in the network simply based on the identifiers of the IRs," i.e. not based on timeslot selections. The timeslot selections of each node in the ad-hoc network may never be the same. The point of Garcia's scheduling system based solely on identifiers is that eventually, each node in the network should have the same list, and thereby independently create the same schedule as every other node. However, because of such independence, there is no guarantee that the nodes will contain the same list, which leads to each node having a different schedule (paragraph 96). Therefore, the rejections are maintained.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 7, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scholefield et al. (U.S. 5,742,592, herein "Scholefield") in view of Garcia-Luna-Aceves (U.S. 2002/0167960 A1, herein "Garcia").

Regarding claims 1, 7, and 13, Scholefield teaches a method, comprising:

(a) at a base station scheduler (receiving node) (column 4, lines 19-21) of a communication network, receiving a request to schedule at least one timeslot of a

recurrent cycle for receipt of burst transmissions (column 4, lines 14-19, 37-38; "an access request on all three timeslots ... received by the ... scheduler") from a subscriber (sending node) (column 4, lines 17-20) of the network;

(b) in response to the scheduling request, selecting at least one timeslot of the cycle for receipt of burst transmissions (column 4, lines 27-29; "an allocation of only these subchannels would be made"); and

(c) communicating the selected timeslot or timeslots to the sending node (column 4, lines 37-44; "send back ... separate allocation messages on each subchannel").

However, Scholefield may not explicitly teach selecting in a manner which is independent of timeslot selections to be made by other existing receiving nodes of the network, or as recited in claim 13, "based on only the at least one request". Garcia, which is in the same field of endeavor, teaches selecting in a manner which is independent of timeslot selections to be made by other existing receiving nodes of the network, or based on only the at least one request (paragraph 0030; "nodes admit new nodes for quasi-static scheduling independently of one another") for the purpose of "allowing a new node to start using the time slots ... after it receives routing messages from some or all of its neighbors".

Particularly, Garcia teaches time slots of the quasi-static schedule are assigned to nodes based simply on the identifiers of other nodes (paragraph 87), i.e. not based on timeslot selections to be made by other nodes. Although the timeslot selections are expected to be the same for each node in the steady state (paragraph 88), Garcia teaches asynchronous scheduling by each node assuming a new quasi-static schedule

immediately after receiving an updated node list causing different nodes to have different timeslot selections (paragraph 94). Therefore, quasi-static scheduling enables a scenario where a first existing receiving node has a schedule, a first new node enters, the first existing node updates its schedule independently, a second new node enters, and a second existing node updates its schedule independently and differently based on the first and second new nodes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select at least one timeslot of the cycle in a manner which is independent of timeslot selections to be made by other existing receiving nodes of the network, or based on only the at least one request, to allow a new node to start using the time slots after it receives routing messages from some of its neighbors.

Claims 2, 8, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scholefield et al. (U.S. 5,742,592, herein "Scholefield") in view of Garcia-Luna-Aceves (U.S. 2002/0167960 A1, herein "Garcia") as applied to claims 1 and 7 above, and further in view of Peterson (U.S. 6,301,262 B1).

Regarding claims 2, 8, and 14, Scholefield teaches in at least one instance of the recurrent cycle at the sending node, transmitting a burst via the designated subchannels within the recurrent cycle (column 4, lines 43-46), but does not teach determining at least one time at which bursts need to depart in order to arrive at the receiving node within a selected timeslot, and transmitting a burst at least at one of the times that have been determined. Peterson, which is in the same field of endeavor, teaches determining at least one time at which bursts need to depart in order to arrive at the

receiving node within a selected timeslot (column 6, lines 14-24; "determines if a time slot exists in which a message may be injected ... so that it may be received ... at a time when the requested resources are receptive to receiving"), and transmitting a burst at least at one of the times that have been determined (column 6, lines 14-24; "a message may be injected") for the purpose of solving the problem of propagation time due to distance between communications resources (column 2, lines 6-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to in addition to the method taught by Scholefield, determine at least one time at which bursts need to depart in order to arrive at the receiving node within a selected timeslot, and transmit a burst at least at one of the times that have been determined to solve the problem of propagation time due to distance between communications resources.

Claims 3, 4, 9, 10, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scholefield et al. (U.S. 5,742,592, herein "Scholefield") in view of Garcia-Luna-Aceves (U.S. 2002/0167960 A1, herein "Garcia") as applied to claims 1 or 7 above, and further in view of Padovani et al. (U.S. 6,574,211 B2, herein "Padovani") and Dail et al. (U.S. 5,570,355, herein "Dail").

Regarding claims 3, 9, and 15, Scholefield teaches detecting an idle period (column 6, lines 50-51), but does not teach detecting non-receipt of a scheduled burst at the receiving side; selecting a timeslot in substitution for the timeslot of the non-received burst; and communicating the selected substitute timeslot to the sending node.

Padovani, which is in the same field of endeavor, teaches detecting non-receipt of a scheduled burst at the receiving side (column 15, lines 36-40; "missing data units are considered as though received in error") for the purpose of then transmitting NACK messages corresponding to the missing data units.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to in addition to the method taught by Scholefield, detect non-receipt of a scheduled burst at the receiving side to then transmit a NACK message corresponding to the missing data units.

Dail, which is in the same field of endeavor, teaches selecting a timeslot in substitution for the timeslot of the non-received burst (column 3, lines 65-67; column 4, lines 1-4; "a 'hole' ... is taken account of by 'repacking', which refers to reallocation of time slots to existing calls"); and communicating the selected substitute timeslot to the sending node (column 4, lines 13-17; "stations are notified of the new ... time slot allocations by sending messages") for the purpose of adapting to the changing demands of a mix of STM and ATM applications (column 2, lines 53-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to in addition to the method taught by Scholefield and modified by Padovani to select a timeslot in substitution for the timeslot of the non-received burst, and communicate the selected substitute timeslot to the sending node to adapt to the changing demands of a mix of STM and ATM applications.

Regarding claims 4, 10, and 16, Scholefield teaches deferring completion of a first data transfer for a higher priority data transfer (column 5, lines 47-54), but does not

teach the selection of a substitute timeslot. Dail teaches selecting a substitute timeslot that has already been scheduled as in the instant invention alternative (column 4, lines 1-2; "reallocation of time slots to existing STM calls") for the purpose of adapting to the changing demands of a mix of STM and ATM applications.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to in addition to the method taught by Scholefield and modified by Padovani and Dail to select a substitute timeslot that has already been scheduled to adapt to the changing demands of a mix of STM and ATM applications.

Allowable Subject Matter

Claims 5, 6, 11, 12, 17, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shachar et al. (US 7009991 B2) teaches timeslot reservations are independent of other timeslot reservations in an optical ring network.

Rogers (US 6556564 B2) teaches schedules for reception are independent at each switch.

Raychaudhuri (US 4504946) teaches a receiver with timeslot selection independent of timeslot selection by other receivers in a satellite system.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Weidner whose telephone number is (571) 270-1825. The examiner can normally be reached on Monday - Friday, 8:00 AM - 5:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Timothy J Weidner/
Examiner, Art Unit 2419

/Edan Orgad/
Supervisory Patent Examiner, Art Unit 2419